Projected Sensitivity Plots to Bless (Seminars/APS 2011)

Ruth Toner

University of Cambridge
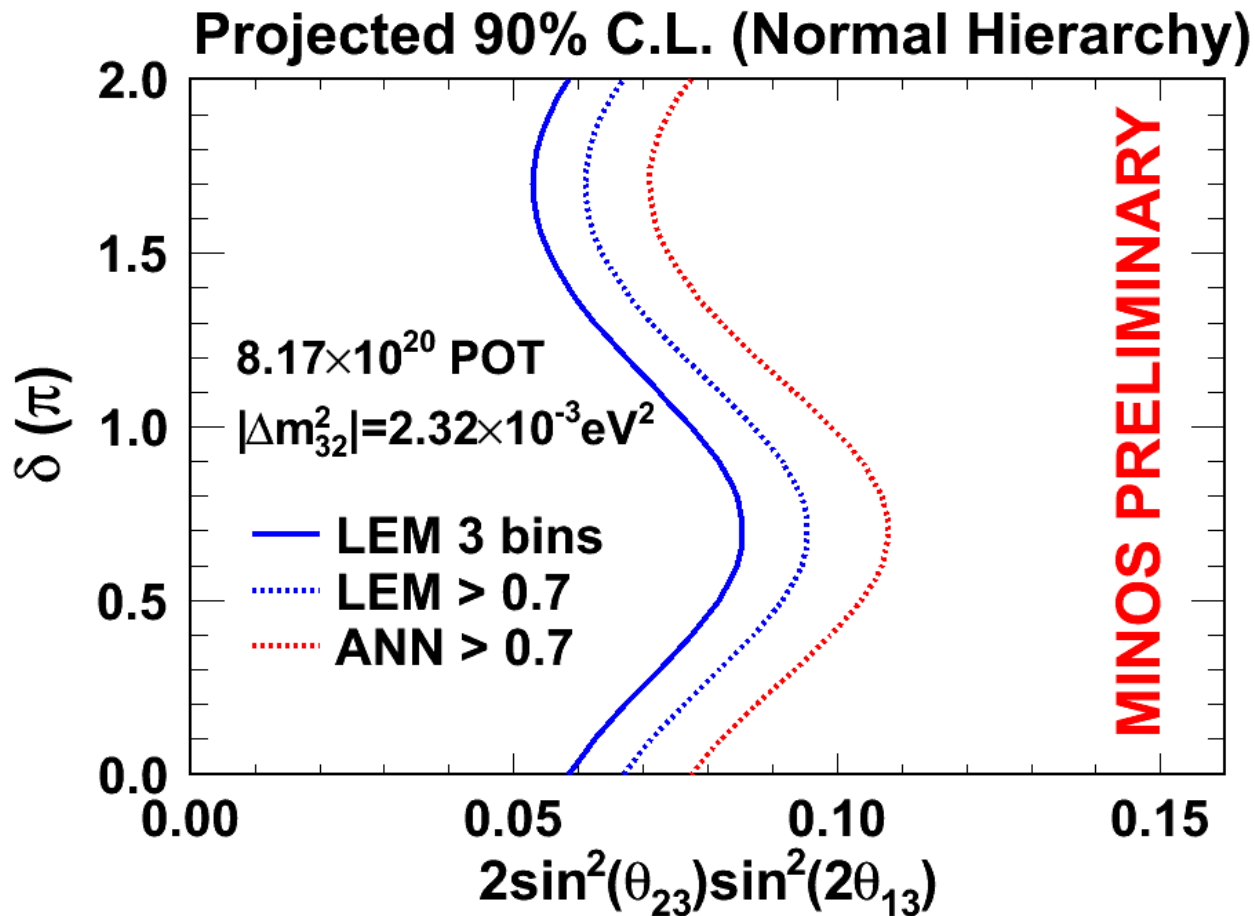
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Fig. 1: The projected 90% CL upper limit for $2\sin^2(\theta_{23})\sin^2(2\theta_{13})$, shown for successive MINOS analysis improvements. The red dotted line shows the limit for a single bin ANN11 selection, as was used in the previous 7e20 MINOS nue appearance analysis. The blue dotted line shows the improvement gained by employing the LEM particle ID for a single bin selection. The solid blue curve shows the improvement gained by employing a three bin likelihood shape fit and the LEM particle ID - the official method being used for this analysis. The limits are shown as a function of δ CP for the Normal Hierarchy and are each calculated assuming we observe no excess over each method's individual background prediction at 8.17e20 POT.
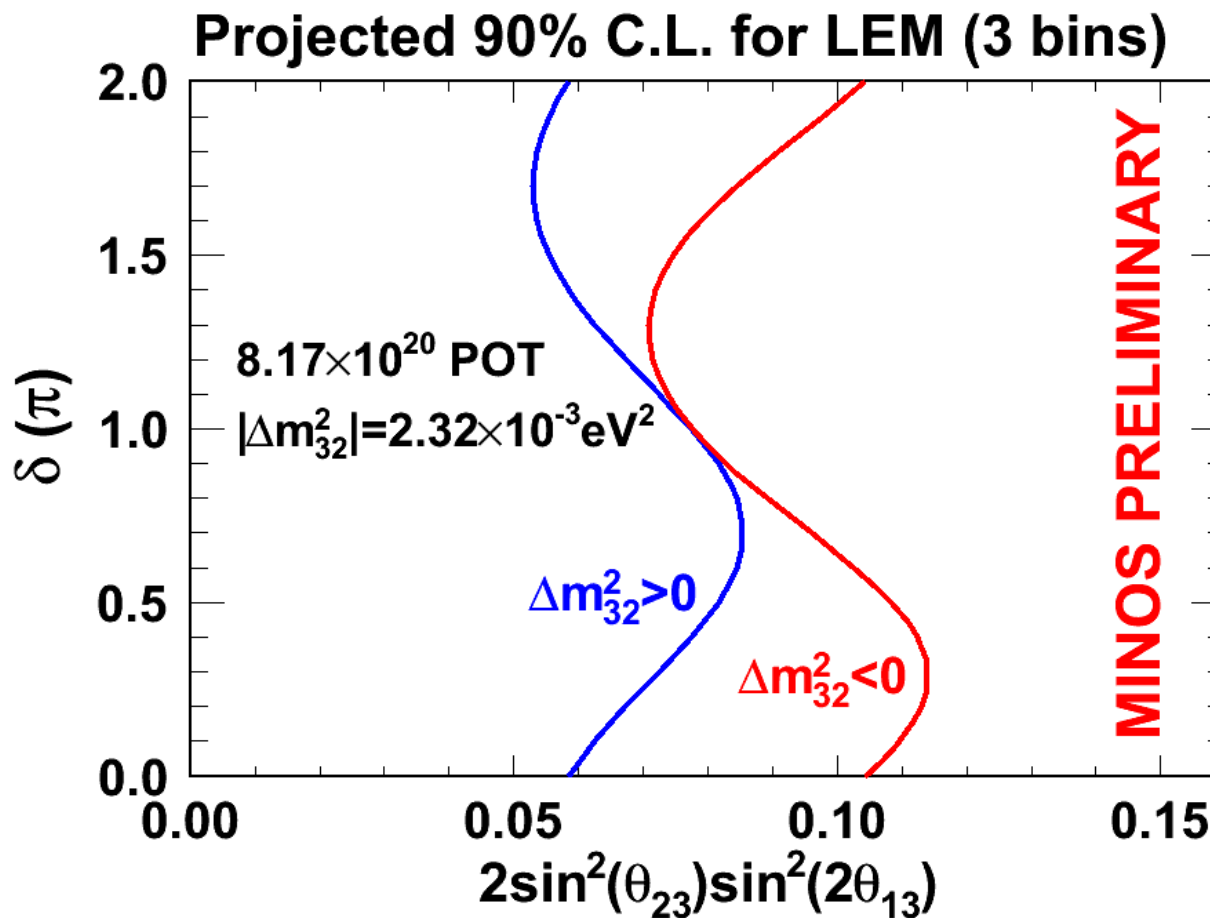
Fig. 2: The potential 90% CL upper limit for for $2\sin^2(\theta_{23})\sin^2(2\theta_{13})$ set by the LEM three bin likelihood fit, as a function of δ CP, for both the normal (blue) and inverted (red) hierarchies. Both limits are calculated assuming we observe no excess over the background prediction in the three LEM bins at 8.17e20 POT.